

## **ABSTRACT**

Methods of enhancing sensitivity and specificity of an assay measuring enzymatic activity in a sample by measuring enzymatic activity in the sample in the presence and absence 5 of a specific inhibitor of the enzymatic activity are provided. Methods of measuring carboxypeptidase A levels and total carboxypeptidase A levels, wherein procarboxypeptidase A is converted to carboxypeptidase A by addition of clostripain, in a biological fluid with a carboxypeptidase A 10 substrate, specificity of which is enhanced by addition of a carboxypeptidase A specific inhibitor are also provided. In addition, methods of diagnosing acute pancreatitis by measurement of carboxypeptidase A levels and pancreatic cancer by measurement of total carboxypeptidase A levels are also 15 provided.